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Environmental Heritage of the *Argo Merchant*

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THE ENVIRONMENTAL HERITAGE OF THE *ARGO MERCHANT*

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I. INTRODUCTION

The aging Liberian tanker *Argo Merchant* grounded near Nantucket Island on December 15, 1976 and later broke up, spilling 7,600,000 gallons of oil. Two days later, an explosion aboard the Liberian tanker *Sanswena* in Los Angeles Harbor killed eleven persons. Ten days after that, the Liberian tanker *Olympic Games* struck a rock in the Delaware River and spilled 145,000 gallons of oil. The next day, on December 28, 1976, the *Daphne*, another Liberian tanker carrying 16,800,000 gallons of oil, ran aground off San Juan, Puerto Rico. A few days later, on January 4, 1977, the Panamanian tanker *Grand Zenith*, carrying 8,000,000 gallons of oil, sank off New England without survivors, and, on the same day, the Liberian tanker *Universe Leader*, carrying 21,000,000 gallons of oil, ran aground in the Delaware River. Thus in a period of 20 days, six major tanker incidents occurred.

The public outcry resulting from these three weeks of major tankship accidents focused on a small, frugal, agency of the United States Government which is responsible for maritime safety—the United States Coast Guard. The Coast Guard found itself in the spotlight of public attention but, lacking the large, polished public relations departments found in many other federal agencies, it

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failed to respond effectively to its overnight legion of critics. However, the first constructive steps ever designed to specifically reduce the incidents of tanker navigational disasters were taken by the Coast Guard on January 31, 1977. At that time the Coast Guard brought into force the first set of United States Navigation Safety Regulations.[1] On the same day, the Secretary of Transportation, stating that he thought further measures were necessary, formed a task force to review the situation.[2] Less than two months later, President Carter instructed his Secretary of Transportation to develop new and more comprehensive operational rules for large oil tank vessels using United States ports.[3] In response to this Presidential initiative, the Coast Guard published further proposed regulations on May 16, 1977.[4]

Rarely have proposed or adopted regulations provoked the intensity of domestic and foreign comment which followed these developments. This article will trace the history and impact of the January 1977 Navigation Safety Regulations, explore the extraordinary developments following the May, 1977 Presidential initiative regulations, and conclude with some predictions for the future.

II. Early Attempts to Control Vessel Operations

A. *The Ports and Waterways Safety Act of 1972*

The basic statutory authority for Coast Guard control of vessel operations and navigation was in existence before the *Argo Merchant* grounding in the form of the Ports and Waterways Safety Act of 1972 (PWSA).[5] The Act is divided into two titles. Title I—Ports and Waterways Safety and Environmental Quality[6]—provides statutory authority for the establishment, operation and maintenance of control over vessels which are determined to be especially hazardous, and for vessel control under particular conditions of reduced visibility, adverse weather, vessel congestion, or other hazardous circumstances. As originally introduced in the House of Representatives, Title I was supposed to be the only section of the PWSA.[7] However, the House bill contained no require-

[1] 42 Fed. Reg. 5,956-5,965(1977) (to be codified in 33 C.F.R. § 164).
[2] Dep't of Transp. Press Release (January 31, 1977).
[3] 13 Weekly Comp. of Pres. Doc. 408 (March 17, 1977).
[4] 42 Fed. Reg. 24,868-24,876.
[5] 33 U.S.C. §§ 1221 *et. seq.* (Supp. IV 1974).
[6] 33 U.S.C. §§ 1221-1227 (Supp. IV 1974).
[7] S. Rep. No. 724, 92d Cong., 2d Sess. 3, 23-30, *reprinted in* [1972] U.S. Code Cong. & Ad. News 2766.

ment that vessels be built to higher design or construction standards, nor did it subject them to higher operational standards. The Senate did not feel that Title I went far enough toward the protection of that portion of the marine environment at hazard by the carriage of oil. Accordingly, the Senate initiated amendments to the original legislation which later became Title II of the PWSA. Title II is a revision of the Tank Vessel Act[8] which was originally enacted in 1936.

The provisions of the Tank Vessel Act basically applied to the maintenance of oil tankers' cargo handling fixtures and appliances. In expanding and revising the 1936 Act into PWSA Title II, Congress explicitly stated that its intention was to require the improvement of design, construction, maintenance and operation of all such vessels.[9] Title II imposes a duty upon the Secretary of Transportation and the United States Coast Guard[10] to promulgate additional rules and regulations to further the stated Congressional intent.[11] Congress also set out the general areas in which it expected the executive branch to act "as soon as practicable."[12]

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[8] 46 U.S.C. § 391a (1976).

[9] The statement of congressional policy declares:

> That the carriage by vessels of certain cargo in bulk creates substantial hazards to life, property, the navigable waters of the United States (including the quality thereof) and the resources contained therein and of the adjoining land, including but not limited to fish, shellfish, and wildlife, marine and coastal ecosystems and recreational and scenic values . . . . That the existing standard for the design, construction, alteration, repair, maintenance and operation of such vessels must be improved for the adequate protection of the marine environment.
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> That it is necessary that there be established for all such vessels documented under the laws of the United States comprehensive minimum standards of design, construction, alteration, repair, maintenance and operation to prevent or mitigate the hazards to life, [and] property . . . .

46 U.S.C. § 391a(1) (Supp. II 1972).

[10] The United States Coast Guard is one of the operating administrations within the Department of Transportation in time of peace. 49 U.S.C. § 1655(b) (1970).

[11] Title II states:

> In order to secure effective provision (A) for vessel safety, and (B) for the protection of the marine environment, the Secretary of the Department in which the Coast Guard is operating . . . shall establish for the vessels to which this section applies such additional rules and regulations as may be necessary with respect to the design and construction, alteration, repair and maintenance of such vessels . . . and with respect to the operation of such vessels . . . .

46 U.S.C. § 391a(3) (Supp. II 1972).

[12] Title II charges the Secretary with the following obligation:

> [B]egin publication as soon as practicable of proposed rules and regulations setting forth minimum standards of design, construction, alteration, and repair of the vessels to which this section applies for the purpose of protecting the marine environment. Such rules and regulations shall, to the extent possible, include but not be limited to standards to improve vessel maneuvering and stopping ability to reduce cargo loss following collision,

Congress recognized that a great deal of controversy surrounded its decision to unilaterally impose vessel standards on all vessels plying United States waters.[13] However, the fact that, since the vast majority of tank ships operating in United States waters are of foreign registry comprehensive new standards applicable only to United States flag vessels would be ineffective, could not be ignored. Limiting regulation to domestic ships would probably be self-defeating because it would place American vessels at a competitive economic disadvantage and further reduce the United States' flag portion of the world's oil trade. Congress was also cognizant of the criticism expressed by domestic commentators and foreign operators regarding the possibility that an imposition of environmental standards upon all vessels entering United States ports might be violative of existing United States treaty obligations.[14] Congress was not insensitive to these conflicting concerns. Rather, it was unusually impatient with the long delays which it foresaw in achieving urgently needed changes if such international bodies as the Inter-Governmental Maritime Consultative Organization (IMCO) were utilized.[15]

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grounding, or other accidents, and to reduce damage to the marine environment by normal vessel operations such as ballasting and deballasting, cargo handling, and other activities. 46 U.S.C. § 391a(7) (Supp. II 1972).

[13] *See generally* S. REP. No. 724, 92d Cong., 2d Sess. 17, *reprinted in* [1972] U.S. CODE CONG. & AD. NEWS 2766.

[14] The treaty most often mentioned was the Safety of Life at Sea Convention (SOLAS), a multinational agreement adopted under the auspices of the International Maritime Consultative Organization (IMCO). IMCO is a specialized agency of the United Nations. Senior Coast Guard officers compose the backbone of the United States delegation to IMCO Conferences. 43 Fed. Reg. 16,886 (1978). SOLAS prescribed rules and regulations designed to protect the safety of vessel crews and passengers. No IMCO sponsored treaty or other such international agreement then in force adopted any specific tanker construction standards aimed at the protection of the environment. The Senate Committee therefore concluded that no United States treaty obligation prevented unilateral legislation in that area, as opposed to ship safety matters. S. REP. No. 724, 92d Cong., 2d Sess. 17, *reprinted in* [1972] U.S. CODE CONG. & AD. NEWS 2766.

[15] The Senate Report stated:

> However, notwithstanding the fact that unilateral imposition of tanker construction standards for protection of the marine environment would not appear to violate any treaty to which the United States is a party, the Committee recognized that this has traditionally been an area for international rather than national action. Moreover, international solutions in this area are preferable since the problem of marine pollution is worldwide. This point was raised by the Department of State and the Department of Transportation in testimony before the Committee. Similarly, the Committee received a communication from the governments of Belgium, Denmark, Finland, the Federal Republic of Germany, Greece, Italy, Japan, the Netherlands, Norway, Spain, Sweden, and the United Kingdom expressing concern about this problem and the belief that international agreements should produce a better solution to these problems than unilateral action.
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> . . . The Committee fully concurs that multilateral action with respect to comprehen-

Congress felt that the IMCO record in regard to the substance of design and construction standards for the protection of the environment had been less than adequate. Nevertheless, the advantages of international as opposed to unilateral regulations, combined with the pendancy of an IMCO Marine Pollution Conference, were sufficient to persuade Congress to partially modify its unilateral regulations. Accordingly, Title II of PWSA provided for conformance with international proposals for improvement, should satisfactory international action be forthcoming from the then-pending International Convention for the Prevention of Pollution from Ships (MARPOL 73). In the absence of such international action, however, PWSA also established time limitations for the promulgation of unilateral United States rules and regulations.[16]

B. MARPOL 73

The International Convention for the Prevention of Pollution from Ships was held in London in the fall of 1973. It adopted new standards for separating oil cargo and ballast water into separate compartments on tankers of more than 70,000 deadweight tons which were ordered for construction after January 1, 1976.[17] However, that was the only Convention requirement in regard to vessel construction which was considered to be a step forward by environmentalists, and even this standard's full effect would be delayed for many years, since it only applied to new construction. No requirement was adopted for the installation of double bottoms in tankers,[18] nor were standards in regard to vessel maneuvering, naviga-

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sive standards for the design, construction, maintenance and operation of tankers for the protection of the marine environment would be far preferable to unilateral imposition for standards. However, standards are slow in coming from the multi-lateral forums.

Id. at 23.

[16] 46 U.S.C. § 391a(7)(c) (Supp. II 1972); S. REP. No. 724, 92d Cong., 2d Sess. 17, *reprinted in* [1972] U.S. CODE CONG. & AD. NEWS 2766, 2788-89.

[17] The basic thrust of the 1973 Marine Pollution Convention was to provide international pollution control standards, particularly as regards operational discharges. The primary mechanisms for controlling operational discharges were to be (a) discharge standards; (b) operational discharge control measures, including installation of oil discharge monitoring and control devises on existing and new tankers; (c) provision of reception facilities in ports; and (d) a requirement of separate tanks for ballast water and oil cargo ("segregated ballast") on oil tankers larger than 70,000 dead-weight tons ordered after January, 1976. The 1973 Marine Pollution Convention was intended to supersede, as between parties, the 1954 International Convention for the Prevention of Pollution of the Sea by Oil. *See* IMCO Status Doc. Misc. (78) 2.E, 81.

[18] One of the simplest tanker construction features which were proposed to limit spillage of oil cargo, double bottoms, were also the most controversial. The idea was defensive in nature; line the bottom of a tank ship with a layer of tanks which would be empty when the

tional equipments, or ship control practices agreed upon.[19] All together, the actions of the 1973 Conference seemed to justify the congressional concern that the international approach to tankship problems would not be timely or effectual.

C. *Early Domestic Regulatory Proposals*

While preparatory work was being done on the United States position for MARPOL 73 under State Department coordination in late 1972 and early 1973, the Coast Guard was also working on a domestic regulatory proposal in regard to double bottoms. The first phase of that work culminated in a January 26, 1973 issuance of an Advance Notice of Proposed Rule Making[20] by the Coast Guard for

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ship was loaded so that penetration of the outer skin of the vessel would not puncture the cargo oil tank. In most tank ships the oil cargo tanks are simply composed of sections of the vessel's hull and even a small hole, such as might be caused by a minor collision or a light grounding, will result in an oil spill. Fitting double bottoms was an extremely unpopular idea with vessel owners because of expense, the necessary reduction in vessel cargo carrying capacity and some questions concerning the effect on vessel stability. Environmentalists, however, argued that double bottoms would prevent the escape of oil that would otherwise be released by numerous low and middle order magnitude tanker accidents.

The double bottom tanks would be filled with ballast water when the vessel was making its return voyage empty of cargo. By its very nature the oil trade predominately is a one way movement of cargo. On the return voyage the empty tankship must take on board ballast water so as to preserve its stability. The double bottom concept would segregate the ballast water from the cargo tanks and thereby contribute to the minimization of another important, but non-navigational, source of oil pollution. A tanker which takes on board non-segregated ballast water must clean its cargo tanks before it receives its next oil cargo. Inevitably, the cleaning results in the ocean discharge of some quantity of oil. *See* S. REP. No. 724, 92d Cong., 2d Sess. 17, *reprinted in* [1972] U.S. CODE CONG. & AD. NEWS 2766.

[19] Whatever the value of double bottoms in minimizing grounding and collision damage, it would seem far better to avoid such a casualty altogether. Basically, it is argued, that casualty avoidance can be increased by mandating the installation of additional modern navigation equipment, such as additional radars, anti-collision radar devices, and electronic position determining devices, and by requiring tank vessels' officers to carefully practice the art of navigation. There is a long national and international history of governmental vessel equipage requirements, but traditionally neither the United States nor other governments have attempted to affirmatively require master mariners to conform to any sort of a navigational code of conduct. Nothing that occurred at MARPOL 73 changed the traditional pattern. *See generally* Letter from Eldon V.C. Greenberg (Counsel for the Environmental Defense Fund, the National Resources Defense Counsel, the National Parks and Conservation Association, the Friends of the Earth, the National Wildlife Federation, the Wilderness Society, and the National Audubon Society) to the United States Coast Guard (August 19, 1974)[hereinafter referred to as Greenberg letter].

[20] Pursuant to the provisions of the Administrative Procedures Act, 5 U.S.C. § 553 (1966) notice of the proposed text of new rules or regulations must normally be published in the Federal Register at least 30 days before such rules or regulations come into effect. On occasions, such as this one, when the agency feels that a proposal merits more extended consideration it can issue either a conceptual statement of intent or a tentative proposed regulation as an advance notice, and solicit comments to assist it in preparing a concrete proposal for further publication. Further modifications can be made following the publication of the

construction requirements for tankships.[21] This tentative proposal generally outlined requirements for segregated ballast tanks which would be fitted as double bottoms in tankships. This requirement would achieve the twin objectives of decreasing the discharge of oil in ballasting operations and also preventing the accidental discharge of oil as the result of any grounding incident.

The Coast Guard was not attempting to impose its own views in advance of the then pending MARPOL 73, but was very conscious of its congressional mandate under PWSA to improve tankship safety in United States waters within a finite time period. However, the Coast Guard was soon faced with strong foreign objections, United States State Department disapproval, and vigorous marine industry opposition.[22] The public record shows that after the publication of the Advance Notice the Coast Guard received many comments from the United States marine industry complaining about the high cost of installing double bottoms and pointing out the drawbacks of unilateral action on a subject thought to be best addressed through concerted international action.[23]

On July 5, 1973, the Coast Guard decided to remove its proposed regulations from consideration and "supplemented" its previous "Notice."[24] The supplemented Notice stated that the Coast Guard would wait to see the results of MARPOL 73 before considering any safety regulations. As noted above, that Convention did not adopt an international requirement for the installation of double bottoms in tankships despite a Coast Guard-sponsored conference proposal to that effect. Therefore, on March 1, 1974 the Coast Guard cautiously ventured forth once again and published another "Notice," this time addressing the limited issue of control of individual vessel operations. This "Notice" was issued under the authority of

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proposal so that the final regulation may differ considerably from the advance notice or the proposed regulation.

[21] 38 Fed. Reg. 2,467 (1973).

[22] Following the *Argo Merchant* disaster, Senator Edward W. Brooke (R-Mass) said, in regard to the situation in which the Coast Guard found itself:

> I realize that it has been fashionable in some quarters to blame the USCG for moving cautiously and conservatively . . . . Personally, I feel the responsibility belongs with Congress. No line agency can be expected to make so major a step [that is establish minimum vessel construction, equipment and operating standards] in international, as well as domestic, regulations policy in the face of State Department opposition and legislative inertia.

Hearings before Senate Commerce Committee on Recent Tanker Accidents, 95th Cong., 1st Sess. 10 (1977).

[23] *See* Docket CGD 72-245 P.

[24] 38 Fed. Reg. 17,848 (1973).

Title I of the PWSA and contemplated regulations authorizing the individual Coast Guard Captains of the Port to control vessel traffic in the geographic areas under their respective jurisdiction when those officials determined that one or more of the necessary statutory conditions existed.[25] No reference was made in the March, 1974 notice to any generalized navigation safety regulations based on any authority contained in Title II. The March, 1974 notice might be viewed, in retrospect, as something of a trial balloon.

On June 28, 1974, a further and much more significant Notice of Proposed Rule Making was issued by the Coast Guard for regulations to govern the design and operation of tankships and barges carrying oil in the domestic, coastwide United States trade.[26] In the preliminary statement published with the proposal, the Coast Guard signaled that it would no longer fight for the double bottom concept. The statement observed that double bottoms were neither required nor prohibited by the proposed regulation. The Coast Guard still endorsed the concept but observed that the large number of vessels now in existence without double bottoms would prevent a double bottom requirement from achieving the desired overall reduction of oil pollution. In so capitulating on a concept that had been endorsed by Congress, the Coast Guard, as a matter of practical politics, had to propose some alternative action.

The Coast Guard's alternative, contained in the very next Federal Register item,[27] was a system of proposed operational requirements designed to hopefully reduce groundings by improving navigational practices.[28] This new Advanced Notice of Proposed Rule Making

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[25] Such control was to take place in areas determined to be especially hazardous, or under conditions of reduced visibility, adverse weather, vessel congestion, or other hazardous circumstances, 33 U.S.C. § 1221(3) (Supp. II 1972).

[26] 39 Fed. Reg. 24,150-24,157 (1974).

[27] *Id.* at 24,157.

[28] The philosophy behind the June 1974 Marine Traffic Regulations proposal was described in its preliminary statement:

> [I]n view of the increasing vessel traffic carrying hazardous cargoes, the Coast Guard has determined that there must be an improvement in the operating practices aboard all major vessels on the navigable waters. The increasing number of large vessels carrying hazardous cargoes in bulk on the navigable waters of the United States has created a significant and growing hazard to life, property, and the marine environment. Eighty percent of vessel casualties occur within the coastal and harbor regions. The *Torrey Canyon* grounding, the *Tamano* grounding, the *Oregon Standard* and the Tug *Carolyn* and *Weeks Barge No. 254* collision with the Chesapeake Bay Bridge and Tunnel, exemplify casualties that have occurred in waters adjacent to shore areas. Each of these casualties posed a significant threat to life, property, and the environment. Information regarding these incidents and similar incidents reveals that human error is often the primary cause of casualties. The conclusion of a study based on Coast Guard investigations is that human error is a contributing factor in 85 percent of casualties. Currently, oil constitutes

was entitled "Marine Traffic Requirements" and it listed certain equipment which would be required on board all vessels while navigating in United States waters bound for or departing from United States ports. The equipment requirements were broken down in categories of vessel size of more than 150 gross tons,[29] more than 10,000 gross tons, and more than 35,000 gross tons. Vessels in the middle category were to be required to have a second radar installation and one of the installed radars was to be equipped with anti-collison plotting devices. All vessels were to be required to have competent personnel standing by in certain critical areas or by certain critical machinery, including anchors. The larger vessels were also to be required to provide an additional licensed deck officer to plot the vessel's position along an intended navigational track line previously established on a chart. The March, 1974 proposal for a grant of sweeping authority to individual Captains of the Port to control vessels within specific areas under Title I of PWSA was repeated. In what would appear to be a last attempt to confer legitimacy on the double bottom concept, the Coast Guard listed one of the factors to be considered by a Captain of the Port in determining when to control a vessel as whether or not a particular tankship was fitted with double bottoms.

Environmental interests vigorously protested the Coast Guard's retreat from double bottoms, as well as other aspects of the June 28, 1974 proposed regulatory issuances.[30] Attention was drawn to the fact that the United States delegation to MARPOL 73 had supported the installation of double bottoms, and it was pointed out

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60 percent of the cargo carried by vessels traversing the oceans of the world . . . due to increasing U.S. reliance on imported crude oil, the hazard to life, property, and the environment will also increase as the waters become more congested with traffic. The Coast Guard believes that only uniform requirements imposed on all major vessels can produce safer conditions for congested and hazardous maritime traffic . . . . Therefore, it is the ultimate goal of the regulations under consideration to establish safer standards for the operation of vessels capable of causing a major casualty within the navigable waters.

Id.

A footnote described the June 28, 1974 Advance Notice as a supplement to the March 1974 proposal. *Id.* at 24,158 n.1. The Coast Guard for the first time cited as authority for vessel *control* regulations Title II of PWSA. *Id.* at 24,157.

[29] Gross tonnage is the total measured cubic volume of a ship expressed in units of 100 cu. ft. with certain space exemptions. The other common measure of a ship's size, deadweight tonnage, is the difference in metric tons between the displacement of a ship in water (specific gravity of 1.027) at the load waterline corresponding to the assigned summer freeboard, and the displacement of a ship in metric tons without cargo, fuel oil, lubricating oil, ballast water, fresh water, and feedwater in tanks, consumable stores, passengers and their effects. *Id.* at 24,153.

[30] *See* Greenberg letter, *supra* note 19.

that the legislative history of PWSA virtually set out an express congressional decision that double bottoms represented an environmentally sound approach to the problems of accidental tanker pollution.[31] The environmental groups commented that the Coast Guard's proposed Marine Traffic Requirements, while desirable, would not compensate for the abandonment of the double bottom construction requirements and the other perceived efficiencies in the proposed tanker design and construction requirements, because no significant improvement over existing practice was foreseen.[32] Questions were raised as to whether Congress had not mandated substantial improvement in oil tanker spill-prevention regulations as opposed to a mere codification of existing practice.[33]

As might be expected numerous public objections were made to virtually all parts of the proposal by shipping companies, shipping associations, and shippers.[34] Although the closing date for public comments was August 19, 1974, comments were still being received through the end of September, 1974. The Coast Guard, beset by interests on both sides of the issues, and apparently without any cabinet level support within the government, spent until May, 1976 studying its next move.

D. The Proposed Coast Guard Regulations of May, 1976

Finally, on May 6, 1976, the Coast Guard issued proposed Navigation Safety Regulations.[35] This regulatory issuance was a detailed proposal which had been developed and expanded from the 1974 advance proposal. Part of the intervening time between the advance proposal and this regulatory proposal had been used by the Coast Guard to conduct a "study"[36] of current operational practices and equipment utilization on tank vessels in order to obtain facts with which it might respond to its many critics.

There were dramatic differences between the 1974 advance pro-

[31] See text and notes at notes 9-12, *supra.*

[32] Greenberg letter, *supra* note 19.

[33] *Id.*

[34] *See* Docket CGD 74-32.

[35] 41 Fed. Reg. 18,766 (1976).

[36] The term "study" was somewhat of a misnomer, what the Coast Guard did was to conduct a short intensive tankship boarding program and compile 3 ½ pages of statistics entitled *Summary Report of Coast Guard Boarding Program March 15-May 15, 1975.* This information was presented in the form of a boarding check list containing 67 questions asked of Coast Guard Boarding Officers. In regard to whether they considered a particular vessel's navigation practices to be adequate overall, 279 boarding officers reflected a "yes" answer and only 15 answered "no." *Summary Report of Coast Guard Boarding Program* (March 15-May 15, 1975).

posal and the May, 1976 proposed regulations. The Captain of the Port vessel control proposal, with its reference to double bottoms, was quietly deleted. In addition, the requirement for a radar anti-collision device was also eliminated. In an attempt to justify this step backwards, the Coast Guard's explanatory statement[37] referred to four comments received concerning the March, 1974 proposal which "expressed reservations" and argued that such a device was still in a "developmental stage."[38]

The proposed regulations did require that a vessel's position be fixed at least every 15 minutes and that its intended track be plotted on a chart beforehand. A mariner was to be forbidden to use bouys alone to fix a vessel's geographic position. The master was to be required to insure that various personnel were properly posted and correctly performed their duties. A pilot was to be informed of any abnormalities peculiar to the vessel when he came on board and in turn was to inform the vessel's master of any abnormal characteristics of the area to be navigated. Steering and main propulsion machinery alarms, as well as emergency generators, were to be tested before entering port or before getting underway. Proper charts and certain other publications were required to be on board. All vessels to which the regulations were to apply were to have certain enumerated equipment and displays, vessels over 10,000 gross tons were to have a second radar system and vessels over 35,000 gross tons were to have a rate-of-turn indicator. In reality, however, the proposals undertook to do no more than "codify existing practices traditionally employed by prudent navigators and ship handlers."[39]

1. Public Reaction to the May 1976 Proposed Regulations

An unusually large number of comments were received by the Coast Guard from various organizations and individuals concerning the May, 1976 proposed regulations.[40] The majority of the comments were from shipping companies, pilots and masters, and their organizations. Two foreign governments submitted public comments to the Coast Guard and there were comments from various states,

[37] 41 Fed. Reg. 18,766 (1976).

[38] *Id.* at 18,767. The Coast Guard "study," however, indicated that such a device was presently in use on 33 out of 302 ships boarded! A ten percent voluntary installation rate certainly was some evidence that some mariners found the equipment useful in its present state of development. The authors feel that the real reason that the anti-collision device requirement was dropped in May 1976 was an intuitive feeling by several influential Coast Guard officers that such devices were not effective in congested coastal waters.

[39] *Id.*

[40] *See* Dockets CGD 74-77, 76-025, 76-051.

municipalities and port authorities as well. Most of the environmental organizations coordinated their comments into a single submission. Virtually no one was satisfied with the proposed regulations.

The environmental interests did not feel that the proposals went far enough. They complained that, although the Notice of Proposed Rule Making stated that the purpose of the rules was to prevent vessel collisions and groundings, and to protect the navigable waters from environmental harm resulting from such collisions and groundings, the proposed rules, in fact did "little more than codify existing industry practice and, at least with respect to an earlier proposal, that for anti-collision radar, they actually represented an unjustified retreat from emerging sound practice."[41] The environmental groups commended the Coast Guard for undertaking a desirable effort to codify standard practice, but they expressed doubts that the proposed rules would substantially reduce accidental oil pollution of the ocean and urged that much more be done.

The Attorney General for the State of Florida, noting that state's extreme vulnerability to oil tanker pollution, applauded the Coast Guard's intentions as expressed in the proposed regulations but also observed that the concept of codification of existing practices, while not regressive, was not necessarily progressive. As he wrote, "[I]t seems to us to improve marine safety in 1976 requires more than just codification."[42]

Most shipping companies vigorously questioned the need for any regulations at all. They argued that no need had been shown for the regulations, that this subject matter was adequately covered elsewhere, and that the proposals improperly invaded the area of professional judgment of vessel masters.[43] However, at least one shipping

[41] Letter from Eldon V.C. Greenberg, (counsel to the Natural Resources Defense Council, Inc., the Sierra Club, the Wilderness Society, the National Wildlife Society, the National Wildlife Federation, the Environmental Defense Fund, Inc., the National Parks and Conservation Audubon Society, and the Environmental Policy Center) to the United States Coast Guard (August 4, 1976)[hereinafter referred to as Greenberg letter #2].

[42] Letter from Robert L. Shevin (Attorney General, State of Florida) to the United States Coast Guard (July 2, 1976).

[43] A sampling of the comments:

> The Coast Guard's attitude often reminds me of the TV stereotype of the red-neck cop who, upon seeing a bunch of teenagers on the street corner, feels the solution to a problem which might develop is to immediately beat the kids over the head with his night stick. The Coast Guard is beating our industry over the head with a night stick fashioned of ill-conceived regulations without demonstrating that such regulations are needed at all.

Letter from L.E. Sutton (Executive Vice President, Upper Mississippi Towing Corporation) to the United States Coast Guard (August 23, 1976).

> I would like to question whether or not there is a need for such regulations. Have there been adequate studies which would indicate that by promulgation of regulations under

company was supportive of the Coast Guard's efforts. After the regulations went into effect, Shell International Marine Ltd. observed:

> [M]ost of the measures now brought into force seem to us to be sensible and practical; they will present no difficulties of compliance for any well-run ship and should . . . receive full and widespread support. Of course, it would be very surprising if any wide-ranging legislation concerning the conduct of navigation was, in every respect, to satisfy all those affected by it.[44]

Pilots and their organizations criticized the regulations as an invasion of their special area of expertise.[45] One provision which seemed to be particularly unsettling to the pilots was the proposed prohibition against relying solely on the position of floating bouys as external aids to the navigation of a ship. It was argued that many times it was only by reference to the Coast Guard-maintained bouys that a vessel's geographic position could be determined.[46] Surpris-

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> which an operator would have to function would physically reduce accidents? . . . In general, after reading the Proposed Rules, I get the feeling that the Coast Guard's intention is to completely take the person in charge by instituting regulations. This would be a terrible blow to the one factor that has made this industry one of the safest modes of transportation in the world today.

Letter of Robert L. Gardner (Port Captain, Marine Division, Alter Company) to the United States Coast Guard (June 16, 1976).

> Many [of the regulations] are already covered elsewhere in Coast Guard or international rules or in the body of knowledge used by mariners in pursuance of their seagoing profession . . . . Does the Government have sufficient reason to get into these operations which have heretofore been left to private management including masters of vessels? . . . Since many of the provisions are covered elsewhere in law or regulations or in the normal practice of mariners . . . these proposed rules could be aimed at making it easier for the Coast Guard to assess civil penalties against vessels.

Comments of Phillip Steinberg (President, Pacific Maritime Shipping Association) at public hearing before United States Coast Guard (June 17, 1976).

[44] Letter from A.F. Dickson to the United States Coast Guard (February 28, 1977).

[45] The following letter represents the type of comment made by pilots and their organizations: "We would like to go on record as objecting to the proposed safety regulations published in the Federal Regulations of May 6, 1976. As pilots licensed by you, we feel that most regulations take away from us the ability to serve a ship with a local knowledge that we possess." Letter from R.L. Counselman, Jr., (President, Virginia Pilots Association) to the United States Coast Guard (July 7, 1976).

[46] Although buoys may not always be in the exact position because of the many reasons outlined in the proposed regulations, it must be understood that in many cases, there is no other way to fix the position of a vessel. The positions and maintenance of buoys, of course come under the Coast Guard's jurisdiction, and with all of the modern equipment available to the Coast Guard, in carrying out this responsibility, it is our feeling that for the greater majority of the time, and considering all the possible adverse conditions, buoys should be properly placed so that they can be used for fixing positions.

Letter of Ernest A. Clouthier (President, American Pilots Associations) to the United States Coast Guard (August 4, 1976).

ingly, one attorney who has litigated a number of cases concerning whether groundings were caused by Coast Guard bouy positioning deficiencies rather than by sloppy navigation practices on board, went so far as to claim that the proposal was contrary to established law.[47]

Predictably, the Seafarer's International Union of North America, AFL-CIO endorsed these portions of the proposed regulations which would require additional vessel manning.[48] However, the Maritime Institute of Technology and Graduate Studies, an institution sponsored by the International Organization of Masters, Mates, and Pilots, AFL-CIO, submitted a well-organized and thoughtful study criticizing other aspects of the proposed regulations.[49] The study noted that the data published to justify the proposed regulations made no mention of vessel size or registry, or the relationship of particular types of ships to the various types of potential casualties. The Institute's study contended that smaller vessels and larger vessels have collisions or groundings for the same reason, whatever

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It should be noted, however, that officers navigating the Coast Guard's ships have always been instructed not to use buoys to fix their ship's position.

[47] The proposed regulations . . . in effect foreclosing the use of buoys as aids to navigation, is in direct conflict with the existing laws established by the Courts . . . . If progress is to be made toward avoiding casualties such as the NORTHERN GULF and TAMANO, it is respectfully suggested that the United States Coast Guard properly utilize the funds appropriated by Congress for the establishment and maintenance of aids to navigation, to improve the competency of the personnel charged with the responsibility of maintaining aids to navigation and to improve the systems used by the Coast Guard and thereby enhancing the reliability of the aids to navigation which the pilots must use if vessels are to safely enter and leave our ports.

Letter of Joseph C. Smith, Esquire (partner in the New York law firm of Burlingham, Underwood and Lord) to the United States Coast Guard (August 3, 1976). Mr. Smith's comments are of particular interest for two reasons. Burlingham, Underwood and Lord has close ties with the Liberian tanker fleet which is the largest such fleet in the world and provides "flags of convenience" for United States and other ship owners attempting to cut cost and conceal ownership interests. The Wall Street Journal, Tuesday, January 18, 1977, at p.1, col. 1 and p. 22 col. 1-3. Mr. Smith, in fact, representing the infamous *Argo Merchant*, was quoted in the Boston Evening Globe Tuesday, April 5, 1977, at p.7, col. 6 as saying that there was "no way" that any of the *Argo Merchant's* owners could be held liable for that vessel's disaster. In addition, Mr. Smith was quite successful, at the trial level, in both the *Northern Gulf* and *Tamano* cases, which he mentioned, in holding the United States Coast Guard solely at fault for buoy marking one side of a mile-wide passage and the fact that the tanker *Tamano* actually collided with the buoy that was marking the rock upon which she grounded. On appeal, however, the *Tamano* decision was reversed and the ship and pilot held to be liable for the tanker's grounding. Presumably, the regulation Mr. Smith complained about will tend to undermine a vessel's or pilot's position in similar litigation in the future. The United States Coast Guard, in promulgating the regulations, clearly had exactly that result in mind.

[48] Letter from Frank Drozak (Vice President, Seafarers' International Union of North America) to the United States Coast Guard (July 14, 1976).

[49] Letter of Captain David H. Williams to the United States Coast Guard (July 16, 1976).

they are, and it is only the consequences of those accidents that are different. The study therefore advocated improvements in the licensing, training and regulation of vessel personnel as a better approach to preventing casualties. Finally, the Institute echoed the concerns of many shipping companies:

> Previously, the master was the one who decided what were the requirements for safe navigation of the vessel and this is who it should stay with. These requirements depend on the circumstances of the case. Is [not] this just another step toward running a ship from an "office"?[50]

The public comments of the Swedish government accurately represent international reaction to the proposed regulations. Sweden felt that national regulations for the design, construction, equipment, and manning applicable to foreign vessels should be based on international standards developed through IMCO.[51] The British government also forwarded public comments to the Coast Guard concerning the regulations.[52] Other foreign protests concerning the proposed United States "unilateral action" were registered through diplomatic channels.[53]

2. Prospects for the Proposed Regulations Before December 1976

In view of the strength of the opposition to the proposed Navigation Safety Regulations, it appeared unlikely, prior to December, 1976, that permanent regulations would be forthcoming. The Coast Guard had never before attempted to codify or regulate navigational practices. There was strong industry opposition to the issuance of

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[50] *Id.*

[51] Letter from Ult Dinkelspiel, Charge' d'Affaires a.i. to the United States Coast Guard (August 6, 1976).

[52] Letter of J.R. Ebswort (Second Secretary, British Embassy in Washington) to the United States Coast Guard (July 14, 1976).

[53] In later discussing the Coast Guard's mandate under PWSA in a letter to the Senate Commerce Committee, the Coast Guard Commandant stated:

> Other governments are already deeply concerned that we have exceeded or intend to exceed limitations established under international agreement. Eight *aides-memorie* on this subject have been filed with the U.S. by a total of twelve governments [the *aides-memorie* were filed, individually or jointly, by the governments of Denmark, United Kingdom, Sweden, Finland, Belgium, France, Federal Republic of Germany, Japan, Netherlands, Norway, Italy, and Greece] since mid-1974. These communications protest "unilateral action" by the United States in the form of Coast Guard rule making in several limited areas which, in the view of protesting governments, is not consistent with the United States commitments under specified conventions and treaties. While the Coast Guard has carefully considered these protests, it has nevertheless persisted in these regulatory measures.

Letter from Admiral O.W. Siler to the Honorable Warren G. Magnuson (Chairman, Senate Commerce Committee) (January 31, 1977).

such navigation regulations. The imposition of requirements for particular equipment and procedures that would apply to foreign vessels while in United States waters was a matter of serious international concern. Similar opposition and concern had forced the Coast Guard to retreat from what was virtually a congressional mandate under PWSA to require the installation of double bottoms in tankships. The Coast Guard had abandoned its advance proposal for the installation of anti-collision radar based on some limited industry opposition, even though some ships already were fitted with that equipment. In addition, a number of Coast Guard officers active in Merchant Marine safety matters had reservations concerning the desirability or propriety of issuing Navigation Safety Regulations.[54]

Yet something like these Navigation Safety Regulations might have been promulgated eventually. The very fact that the Coast Guard had avoided the double bottom issue put the onus on the Service to offer some alternative. However, the timing and content of the ultimate regulations were probably very much in doubt when, at 6:00 a.m. E.S.T. on December 15, 1976, the Liberian tanker *Argo Merchant* blundered aground on Fishing Rip, 29 miles southeast of Nantucket Island.

III. Activity Following the *Argo Merchant* and Other Disasters

Within a few hours of the *Argo Merchant* grounding, the Coast Guard had mustered its Atlantic and Gulf Coast pollution strike teams and had valiantly attempted to refloat the stricken ship in order to prevent its cargo from spilling into the sea. However, the *Argo Merchant* remained aground and, eventually, broke apart due to natural forces. Its cargo of 7,600,000 gallons of No. 6 fuel oil spilled into the ocean, creating one of the largest oil spills in United States history.

Throughout December and into January, as the *Argo Merchant* came apart piece by piece, and as the oil spill spread, the Coast Guard was subjected to intense public scrutiny and severe criticism for not somehow having managed to prevent the casualty, or (more to the point but just as unfair) for not having cleaned up the oil spill.

[54] *E.g.*, The United States Coast Guard Chief of Marine Safety, during much of this period, RADM W.M. Benkert, USCG, indicated in a conversation with one of the authors, Commander Hunter, on June 14, 1973 that he strongly opposed the issuance of any regulations which would impinge upon the traditional right of a master to navigate a vessel in any way he saw fit.

In a January 5, 1977 editorial entitled "No More Argo Merchants," the Wall Street Journal said:

> Four years ago, Congress passed, and the President signed, a Ports and Waterways Safety Act. That law . . . gave the Coast Guard power to issue rules and regulations designed to minimize shipping hazards, including dangers to the coastal environment . . . . The Coast Guard has moved to carry out its duties under the law at a leisurely pace that reflects its original reluctance to take them on in the first place.[55]

The very next day, the New York Times, reported mounting congressional criticism of the Coast Guard for an alleged reluctance to set or enforce safety standards.[56]

Senator Warren Magnuson, the chairman of the Senate Commerce Committee, held two days of hearings on January 11 and 12, 1977 to inquire into the rash of tanker accidents. He and six other Senators, including both Senators from Massachusetts, made statements. Senator Brooke noted the Coast Guard's awkward position and advocated mandatory legislative safety standards. Senator Kennedy was much more critical. As he said:

> The discretionary authority that was granted to the executive agencies under the Ports and Waterways Safety Act of 1972 has been abused. Delay, timidity and bureaucratic lethargy characterized the past five years of that law's history despite this Committee's determined action.[57]

The committee members pressed out-going Secretary of Transportation William T. Coleman, Jr. as well as Admiral Owen W. Siler, the Coast Guard Commandant, for action. Admiral Siler responded defensively that the Coast Guard would promulgate some regulations within the month. Nineteen days later, on January 31, 1977, Admiral Siler rushed the aforementioned Navigation Safety Regulations into effect.

Given the situation the Coast Guard faced and the reservations of some senior officers prior to Admiral Siler's decision, it is certainly questionable whether those regulations would have ever been promulgated under normal circumstances. It is evident, however, that in the latter part of January, 1977, both the Coast Guard Commandant and the new Secretary of Transportation found that they needed to get some regulations published soon. The fully staffed and

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[55] Wall Street Journal, January 5, 1977, at p. A22, col. 1-2.

[56] New York Times, January 6, 1977, at p.8, col. 2-4.

[57] *Hearings before Senate Commerce Committee on Recent Tanker Accidents*, 95th Cong., 1st Sess. 109 (1977).

processed set of regulations which were the fruit of prior Coast Guard efforts satisfied this need, and became effective immediately.

A. Congressional Initiative

In response to the public outcry, some Senators and Representatives filed a number of bills intended to improve tanker safety. The most important of these, Senate bill, S. 682, was filed by Senator Magnuson, and rapidly became the primary legislative initiative.[58] This bill would impose minimum design, equipment and construction standards on foreign and domestic tankships calling at United States ports, and would allow executive agencies to exercise their discretion only to the extent of allowing substitute measures providing equivalent or better environmental protection.[59]

B. Presidential Initiative

President Carter and his advisors were also impressed with the public outcry, and recognized that something more needed to be done. After a short period of study, President Carter forwarded a message to Congress on March 17, 1977, announcing a group of interrelated measures designed to reduce the risks associated with maritime transportation of oil.[60] He said: "These measures are both international and domestic. Pollution of the oceans by oil is a global problem requiring global solutions."[61] The President's message, among other things: (1) transmitted MARPOL 73 to the Congress for ratification; (2) announced an expanded Coast Guard program requiring the boarding of each foreign tanker calling in a United States port and the denial of entry to those vessels not meeting applicable safety and environmental standards; and (3) announced that the United States would seek increased international crew qualification standards at an IMCO Conference already scheduled to be held during 1978. The most immediate step that the President announced was his instruction to the Secretary of Transportation to develop within 60 days new regulations for all large oil tankers, both domestic and foreign. These regulations were to require double bot-

[58] S. 682 was passed by the Senate on May 26, 1977 and at this writing it is before the House of Representatives.

[59] In the House of Representatives, at this writing, it appears that S. 682, 95th Cong., 2d Sess. (1978) may be discarded in favor of a later bill, H.R. 13311, 95th Cong., 2d Sess. (1978). See note 92, *infra*.

[60] *Hearings before the Senate Commerce Committee on Recent Tanker Accidents: Legislation for Improved Tanker Safety*, 95th Cong., 1st Sess. 889-926 (1977).

[61] *Id.* at 889.

toms, segregated ballasts, inert gas systems, collision-avoidance radar and improved emergency steering.

The presidential directive was, in effect, an order to the Coast Guard to reassert proposals that previously had been discarded in the face of international and industry opposition. In addition to directing the issuance of domestic regulations, the President also indicated that he was seeking the immediate scheduling of an international conference at which the Coast Guard and the Department of State could press for effective international action to upgrade tanker standards. Whatever the lack of high governmental interest in Coast Guard tanker proposals before March, 1977, it was thereafter clear that the Coast Guard and other interested government agencies had a mandate to act.

C. The Proposed Coast Guard Regulations of May, 1977

In response to those presidential orders, the Coast Guard published new proposed regulations in the May 16, 1977 Federal Register.[62] The Coast Guard proposed to require a second radar with a computer-aided collision-avoidance system on all vessels of more than 10,000 gross tons operating in United States waters.[63] The segregated ballast and revived double bottom ideas were combined. All existing tankers of more than 20,000 deadweight tons[64] using American ports would be required to be retrofitted with separate ballast tanks of sufficient size and placement so that the vessel, when empty of cargo, could be properly ballasted without the need to admit seawater into the oil cargo tanks and then later to pump the oily water back into the ocean. New vessels would be required to have double bottoms, usable as ballast tanks, to reduce the likelihood of cargo tank ruptures in grounding casualties. However, there was still no firm Coast Guard commitment to the double bottom concept and it proposed to accept alternative technologies providing equivalent pollution protection in the event of a grounding accident.[65] Other proposals were made concerning anti-explosion inert

[62] 42 Fed. Reg. 24,868-24,876 (1977).

[63] An estimated 2000 foreign and 400 United States vessels would be involved at an average cost of $120,000 per vessel according to the economic analysis published with the proposal. *Id.* at 24,872.

[64] See note 28, *supra*.

[65] The accompanying economic analysis estimated that 1250 foreign and 220 United States vessels would be affected by the segregated ballast retrofit requirement and then about 25 new double bottom tankers will have to be built in the United States to meet domestic shipping demands. The total added costs to be passed on to the United States consumer generated by the segregated ballast and double bottom proposals were estimated to amount to $125,000,000 annually. 42 Fed. Reg. 24,868 (1977).

gas systems and emergency steering systems in order to reduce the risk of collision.

1. Public Reaction to the May, 1977 Proposed Regulations

An unusually large number of written comments were submitted to the Coast Guard following the proposal of these regulations, with slightly over half of the submissions being received from private citizens. The private citizens uniformly supported the thrust of the proposed regulations. However, industry again spoke in opposition. While the tenor of the industry representatives' comments seemed more strident,[66] they generally offered little new material concerning the proposals. Industry representatives continued to focus on cost and potential international reprisals,[67] and claimed the regulations would be only marginally effective.[68]

Governmental officials supported the proposals.[69] Environmental groups agreed that the proposed regulations met the need for achievable and effective standards, commenting that in the past

[66] For example:

> The only value which I can ascribe to the [double bottom] proposal is that it might placate those self-appointed saviors of the environment who will apparently continue to charge to the rescue, riding the "double bottom steed" until either it or they drop from exhaustion or old age.

Letter from A.T. Church, Jr. (Executive Secretary, Liner Council, American Institute of Merchant Shipping) to the United States Coast Guard (November 11, 1977).

[67] "Such a regulation invites reprisal and could be detrimental to the foreign commerce of the United States . . . . The expense of backfitting the U.S. flag fleet is staggering." *Id. But consider:* "When it comes to cost or retrofit, if a ship owner or operator can't stand the cost, he doesn't belong in the business, or deserve the privilege of the use of public waters." Letter from Captain Earl B. Walker (President, Portland, Maine Pilots) to the United States Coast Guard (August 25, 1977).

[68] "Studies of government and industry have repeatedly shown that attempting to prevent or mitigate accident pollution by additional design measures is likely to achieve only very marginal improvements, and in some instances could be definitely harmful." Testimony of Gordon W. Colberg (Vice President, Chevron Shipping Company, on behalf of American Petroleum Institute and the Tanker Council of the American Institute of Merchant Shipping) to the United States Coast Guard (June 16, 1977).

". . .Operational pollution can be reduced most effectively through changes in operating procedure with improved monitoring rather than through very costly, and less effective changes in the design of the vessel itself." Letter from F. Ames Smith (Operations Manager, Marine Department, Exxon Company, U.S.A.) to the United States Coast Guard (November 9, 1977).

[69] "[T]he Presidential initiative represents a baseline of adequate anti-pollution capability." Letter from Robert J. Blackwell (Assistant Secretary for Maritime Affairs, U.S. Department of Commerce) to the United States Coast Guard (September 23, 1977).

" . . . With the adoption of the proposed standards, coastal states will find added assurance that their valuable ocean resources will not be impaired as a result of tanker mishap." Letter from Evelyn F. Murphy (Secretary of Environmental Affairs, Commonwealth of Massachusetts) to the United States Coast Guard (May 31, 1977).

casualties had often been caused as much by compliance with inadequate standards as by noncompliance with applicable standards.[70]

New arguments arose with respect to the radar anti-collision device[71] proposal. Proponents of such devices, while conceding that the available systems were not perfect, argued that they were an improvement over the manual processing of radar data and the other navigational aids currently available.[72] Opponents said that such systems were of limited value in crowded waters, and accused proponents of trying to substitute advanced technology for the necessary judgment of properly trained ship's officers.[73]

D. International Efforts

In announcing these proposed unilateral national actions in a March, 1977 message to Congress, President Carter acknowledged the need to seek international solutions.[74] His administration has proceeded vigorously to do so. At the 26th session of the IMCO Maritime Safety Committee in April, 1977, the United States delegation proposed that the President's initiative be made the subject of an early IMCO conference. Later in that year, both the IMCO Counsel and the IMCO Marine Environment Protection Committee endorsed that decision. A joint meeting of the two committees was held in London in October, 1977 to formulate specific proposals and prepare documentation for a plenipotentiary International Conference on Tanker Safety and Pollution Prevention to be held in London in February 1978. It was also agreed to move ahead a Conference on Training and Certification of Seafarers from October, 1978 to June, 1978.[75] Thirty-six nations and various international organi-

[70] [S]tandard, rather than irregular or substandard, practice, with regard to these tanker features may very well be responsible for many oil spill disasters. World standards for oil tankers have too often been shown to be inadequate . . . . The proposed regulations meet the goal of achievable and effective standards . . . . We hope that these proposals will be adopted as a world standard for oil transport.

Letter from Sherrard Coleman (Environmental Defense Fund) to the United States Coast Guard (October 27, 1977).

[71] The radar anti-collision device is a computerized relative motion analyzer which predicts, from current and historical radar measurements of a target ship's position combined with own ship motion, the closest point of approach (CPA) of the two ships. Some models would also be used to determine a targetship's course and speed and predict the results on the CPA of changes in own ship course and speed. *See* 42 Fed. Reg. 24,872 (1977).

[72] Letter from Webster B. Tood, Jr. (Chairman, National Transportation Safety Board) to the United States Coast Guard (August 18, 1977).

[73] Letter from Captain H.L. Nixon (General Manager, Sea Operations, Atlantic, Sea-Land Service, Inc.) to the United States Coast Guard (June 20, 1977).

[74] See note 60, *supra.*

[75] *See* Report on the Joint MSC/MEPC Meeting on Tanker Safety and Pollution Prevention, IMCO MSC/MEPC/10 (October 26, 1977).

zations were represented at the joint committee meeting. The United States delegation[76] was successful in getting the meeting to agree to lay the United States presidential proposals, among others, before the February, 1978 conference.[77]

The international developments reflected an awareness of the great public concern in the United States following the *Argo Merchant* and subsequent tanker disasters. However, the situation was complicated by the international shipping community's suspicion that the United States, in view of the January, 1977 regulations and especially the presidential initiative regulatory proposals of May, 1977, did not intend to negotiate in good faith and was, in fact, committed to a course of unilateral action.[78] Secretary of Transportation Brock Adams, addressing the IMCO counsel, spoke to these concerns:

> [T]he proposed rulemaking does not preempt the international process. Options remain open and we continue to negotiate in good faith. In truth, the proposed rules should help the negotiating process because they translate into specifics, the general guidelines in President Carter's Message.[79]

Nevertheless, unilateral action by the United States, absent speedy and effective international action, was precisely what Congress had in mind when it passed the PWSA in 1972. In its consideration of S.682 in May, 1977, the Senate again expressed its impatience[80] with the process of developing international standards.[81]

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[76] Chairman M.A.A. Butchman, Deputy Secretary of Transportation; Manager RADM S.A. Wallace, USCG; alternates: RADM W.M. Benkert, USCG and RADM A.F. Fugaro, USCG.

[77] Report of the U.S. Delegation to Joint Meeting of MSC/MEPC of the IMCO on Tanker Safety and Pollution Prevention (October 10-21, 1977).

[78] *See Hearings on S. 682 Before the Subcomm. on Coast Guard and Navigation of the House Comm. on Merchant Marine and Fisheries*, 95th Cong. 1st. Sess. (1977)(statement of RADM William M. Benkert, USCG, Chief, Office of Merchant Marine Safety).

[79] Statement by the Honorable Brock Adams, Secretary of Transportation, U.S.A. before the XXXVIII Session of the Council of the IMCO (May 23, 1977).

[80] The congressional impatience may be ascribed in part to a distrust of the international process, and the influence brought to bear on these proceedings by the maritime and oil industries, and in part of a realization that the oil tankers in the American trade tend to be the small, older, marginally-operated ships presenting the more significant environmental threat.

This seeming anti-U.S. discrimination is the result of the growing size of the modern tankship. The huge supertanker can carry oil at a lower cost per gallon/mile than a small ship. So the new tankers have been built progressively larger and have outstripped the capabilities of most United States ports. The solution adopted in other parts of the world has been the establishment of so called "Deepwater Ports"—pipeline terminal fittings established well off shore to which the very largest tankers may be easily connected—has not yet been adopted in the United States. The ports in oil-dependent New England are small and crowded so the

The dilemma of the executive branch was to insure Congress that it would act unilaterally and decisively, if IMCO did not act, while at the same time assuring the community of maritime nations that the United States could and would reason together toward commonly agreed standards—standards which might not be similar to those that Congress itself might mandate.[82] Of course, the problem with unilateral action by one nation is that it invites differing unilateral actions by other nations. A proliferation of disparate national equipment and operation requirements would weigh very heavily on oil commerce,[83] and certainly add costs which would be passed on to the consumer.

1. The 1978 International Tanker Conference (TSPP 78)

The 1978 International Conference on Tanker Safety and Pollution Prevention (TSPP 78) was held in London, England on February 6-17, 1978. It was attended by more than 450 delegates from 62 nations, 16 international organizations, and observers from three nations. The United States delegation was headed by the Deputy Secretary of Transportation and included representatives from Congress, the State Department, the Coast Guard and other federal

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smaller tankers, the old, rusting ships with histories of oil pollution are often seen in New England waters. The *Argo Merchant* was a case in point.

The *Argo Merchant* had a previous minor pollution history in the ports of Philadelphia, Boston and Portland, Maine. In August 1975, the vessel had been ordered out of the port of Boston by the Coast Guard as a result of a pollution incident. Ironically, because of a history, the Coast Guard had plans to overfly the *Argo Merchant* later on the day she grounded, to see if she was again leaking oil, and other Coast Guard inspectors were waiting for her at her intended pier in Salem, Massachusetts.

[81] *See generally* S. REP. No. 176, 95th Cong. 1st Sess. 1-10 (1977).

[82] *See Hearings on S. 682 Before the Subcomm. on Coast Guard and Navigation of the House Comm. on Merchant Marine and Fisheries,* 95th Cong., 1st Sess. (1977)(statement of RADM W.M. Benkert, USCG).

> [P]rotection of the marine environment, including our immediate waters and shores, ultimately depends upon international cooperation, leading to international agreements. Therefore, a very important consideration in evaluating any legislation is its potential impact on such international efforts . . . [and] . . . the progress toward international solutions could be adversely affected by domestic legislation which imposes rigid, mandatory requirements on all vessels without companion provisions designed to accommodate evolving international agreements . . . [but] . . . in the event no progress is made toward international solutions, this nation will have to fully pursue its commitment to unilateral action to preclude the pollution of our waters.

Id.

[83] *See, e.g.,* Letter from British Embassy to the U.S. Department of State, Office of Maritime Affairs (November 10, 1977). "[I]ndividual nations should not unilaterally adopt rules affecting foreign flagships. Rather, standards should be formulated and agreed internationally . . . taking due account of the interests of the affected parties and thus avoiding the creation of obstacles to the freedom of international shipping." *Id.*

agencies, as well as from industry, labor, and environmental organizations. The measures adopted by TSPP 78 in part, were incorporated in a Protocol to improve and expand MARPOL 73.[84]

A great deal of the activity of TSPP 78 was directed at reducing pollution of the ocean by the discharge of oily ballast water from tanker cargo tanks. Considerable progress was made in this area. All new crude oil carriers larger than 20,000 deadweight tons are to be fitted with a crude oil washing system[85] to minimize the oily content of any residue pumped over the side. In addition, all existing crude oil tankers of more than 40,000 deadweight tons must be fitted with segregated ballast tanks. Furthermore, anti-explosion inert gas system requirements now encompass existing vessels and are applicable to smaller new vessels.[86] Still further standards were formulated at the conference in regard to emergency steering gear improvements.[87]

Despite such progress, the United States delegation did not convince TSPP 78 to adopt the double bottom concept and was unsuccessful in achieving an immediate requirement for a radar anti-collision device. Prior to the beginning of TSPP, the United States delegation realized that most of the other nations had strong reservations about the original double bottom proposal. Therefore, at the conference the United States supported an alternative measure, the defensive location of segregated ballast tanks.[88] This concept permits the utilization of the segregated ballast tanks which had already been deemed necessary to eliminate the overboard discharge of oily ballast water. These tanks are to be located in positions

[84] *See generally U.S. Coast Guard (G-MMT-1/82) Background and Summary Regarding The International Conference on Tanker Safety and Pollution Prevention Held in London, England 6-17 February 1978 dated March 24, 1978* [hereinafter referred to as *Background and Summary*]. In addition to adopting a Protocol to MARPOL 73, the Conference also adopted a Protocol supplementing the 1974 Safety of Life at Sea Convention (SOLAS 74).

[85] Crude Oil Washing is a method whereby cargo tanks are cleaned utilizing crude oil essentially as a solvent. Due to the solvent action of the crude oil, the amount of oil and sludge which is recovered and pumped ashore is significantly increased. It should be noted that this increased cargo outturn with resultant economic gain was the primary reason Crude Oil Washing was developed five years ago. The environmental benefits that accrue are due to the fact that there is significantly less sludge and oil remaining in the cargo tanks after cargo discharge. Thus any ballast water introduced into the cargo tanks i.e., "ballast tanks," will contain a minimum of oil/water mixture. The ship therefore has to process much less oil by load on top and this, coupled with the minimization of sludge, yields significant environmental benefits.

[86] Department of Transportation, Coast Guard, Tanker Safety and Pollution Prevention, Information and Regulatory Implementation Plan, 43 Fed. Reg. 16,886 (1978).

[87] *Id.* at 16,889.

[88] *Id.* at 16,890.

within the tanker's hull to provide some defense against hull rupture.[89] TSPP unanimously agreed to this new concept of protective ballast tank location.[90] The defensive location concept will achieve a large degree of the protection which was being sought by those advocating mandatory double bottoms, and at the same time provide more flexibility in tanker design.

TSPP did not adopt the United States' proposal for immediate installation of a radar anti-collision device because other nations feared that the installation of a variety of sophisticated devices in advance of development of parameters for the selection and use of such equipment might degrade rather than enhance safe navigation. The United States had considered the matter to be sufficiently urgent to propose the installation of the device in advance of the development of standards by IMCO.[91] TSPP did, however, adopt the American proposal which will require a second and independent radar installation on all ships of more than 10,000 gross tons.[92] Such an installation will provide a "backup" capability in the very important radar area and also will provide a radar set which may ultimately be fitted with an anti-collision plotting device. Although the majority of the delegation at TSPP 78 disagreed with the United States in regard to the immediate installation of such a device, they did approve a resolution calling for the development of performance standards for radar or anti-collision devices so that the installation of that equipment may be required "at the earliest practicable time."[93] Again this appeared to be a practical compromise between a perceived need to improve tankship navigation and the developing state of the art. The Coast Guard has announced that it will withdraw its domestic May, 1977 collision avoidance device proposal and will instead solicit comments to assist in the development of IMCO standards in this area.[94]

The sense of urgency with which TSPP 78 was convened hopefully will be carried over into the implementation of its accomplishments. By resolution, TSPP 78 set a compliance target date of June, 1981, and recommended that all governments involved take the necessary

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[89] Such tanks would be in the nature of double bottoms, double sides or wings tank design. *Background and Summary*, *supra* note 84, at 28-29.

[90] *Id.* at 31.

[91] 43 Fed. Reg. 16,886 (1978).

[92] *See* TSPP 78 Resolution 13 (Carriage of Collision Avoidance Aids).

[93] Resolution 13 invites the Inter-Governmental Maritime Consultative Organization to develop performance standards for collision avoidance aids as a matter of urgency and not later than July 1, 1979. See *Background and Summary*, *supra* note 84, at 48.

[94] 43 Fed. Reg. 16,890 (1978).

steps to bring the new Protocol into force by that date.[95] Further, the assembled delegations invited all governments concerned to put the new requirements into effect by agreed-upon target dates, without waiting for entry into force of the protocols.[96] The Coast Guard has announced that it will put regulations into effect to implement the TSPP 78 Protocol and has published a table of projected dates for the promulgation of regulations for late 1978 and early 1979.[97] TSPP 78 accomplished a great deal and, unlike some other international conferences, TSPP 78 results will begin to take effect in the immediately foreseeable future.

E. Continued Domestic Initiatives

The United States Senate passed Senate bill, S. 682, before TSPP 78 was convened, though the House had not yet acted on the bill. Although the rapid pace of international developments in the ensuing months may have allayed the worst fears of Congress in regard to the ineffectiveness of an international approach to the ocean oil pollution problem, TSPP 78 apparently has not side-tracked the legislators' wishes to provide firm direction to the executive agencies in regard to their responsibilities for the protection of American waters. In June, 1978 Congressman Murphy introduced H.R. 13311 in an attempt to rewrite PWSA. H.R. 13311 is a comprehensive bill[98] drafted with the benefit of the results of TSPP 78; it has made

[95] TSPP 78 Resolution 1 (Target Date for the Entry Into Force of the Protocol of 1978 Relating to the International Convention for the Prevention of Pollution From Ships) set a target date of June 1981 for entry into force of the MARPOL Protocol. In addition, the resolution recommended that:

> [P]rior to entry into force of the MARPOL Protocol, Governments should ensure that the provisions of that instrument are applied by the date fixed to new ships in respect of requirements which contain a specific implementation date,
>
> NOTING that, with regard to existing oil tankers, the MARPOL Protocol prescribes that requirements should be implemented in relation to the date on which the Protocol enters into force,
>
> INVITES all Governments concerned to put these requirements into effect, to the maximum extent, without waiting for the entry into force of the MARPOL Protocol, by June 1981, or as soon as possible thereafter.

[96] *Background and Summary, supra* note 84, at 49.

[97] 43 Fed. Reg. 16,890 (1978).

[98] H.R. 13311, 95th Cong., 2d Sess. (1978) (entitled Port Safety and Tank Vessel Safety Act of 1978) is a wide ranging bill which would amend PWSA 1972 to give additional authority to the Coast Guard to control vessel traffic in waterways determined to be especially hazardous, bar entry into American ports of ships which have a history of pollution incidents or are manned by officers who are not licensed under standards comparable to United States standards, provide for a study of means to monitor vessels in coastal areas, and improve pilotage standards.

The bill also would further amend 46 U.S.C. § 391a (Supp. II 1972) to authorize the issuance of regulations to establish minimum standards for design and equipment of vessels carrying oil cargoes. Segregated ballast tanks, protectively located as well as inert gas sys-

substantial legislative progress and will probably be passed in lieu of S. 682. The bill would require the Coast Guard to issue regulations applicable to all vessels of more than 10,000 gross tons utilizing United States ports to be equipped with a dual radar system, an electronic position fixing device, adequate communications equipment, a sonic depth finder, a gyro compass, and up-to-date charts by no later than June, 1979. Furthermore, the bill would require the Coast Guard to issue regulations calling for the installation of a radar anti-collision device by July, 1981, or earlier if there is an international agreement on such a device.[99] The bill leaves the Coast Guard little discretion regarding the issuance of regulations to upgrade the safety of tanker navigation, even though it now appears that the congressional mandate will be substantially in accordance with international developments in the same area. Furthermore, by including an electronic position fixing device in the required equipment list of H.R. 13311 Congress apparently wishes to be certain that the specific shortcoming that led to the *Argo Merchant* disaster is in fact rectified, whatever may be the progress in improving tank safety in other areas.

F. Return to the Root of the Argo Merchant Incident

While the many other initiatives in regard to tanker pollution were being discussed, both on the domestic and on the international scene, the Coast Guard itself has pressed on, beyond its basic equipment requirements of January, 1977, to attack the root cause of the *Argo Merchant* disaster—poor coastal navigation. The *Argo Merchant* went aground simply because her officers did not know where she was. As the vessel approached the treacherous shoals near Nantucket Island, the vessel was not totally without navigational resources, although she did not have on board any up-to-date electronic position fixing equipment such as LORAN-C.[100] Although

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tems and crude oil washing systems are to be required. In addition such regulations must include a requirement for dual radar systems, a radar anti-collision device, a sonic depth finder, adequate communications equipment, a gyro compass and up-to-date charts. Additional requirements are also set out for tank vessel steering systems.

[99] In prescribing minimum requirements, unless otherwise required by law, the Secretary [of the Department in which the Coast Guard is operating] shall apply standards which are consistent with the International Convention for the Prevention of Pollution from Ships, 1973, and the International Convention for the Safety of Life at Sea, 1974, as modified by the respective Protocols of 1978 relating thereto.

H.R. 13311, 95th Cong., 2d Sess. § 5 (1978).

[100] The acronym for Long Range Aid to Navigation Equipment, LORAN, is an electronic

vessels in American waters were not required to carry LORAN equipment, a 1975 Coast Guard "study" indicated that 44% of ships boarded had the older LORAN-A equipment installed, while 41% of the ships then had LORAN-C equipment on board.[101] Had the *Argo Merchant* had LORAN equipment installed, her officers could readily have located her position and avoided the well-charted shoal on which she ultimately grounded. When considering the *Argo Merchant* disaster the comments of Mr. Elden Greenberg on the then-pending Navigational Safety Regulations, made some five months before the casualty, are prophetic: "Failure to require LORAN-A/C position-finding equipment is unjustifiable, particularly when vessels covered by the proposed rules will be operating in waters where accurate position determination is of critical importance."[102]

The Coast Guard must have been painfully aware of such comments in January, 1977 as the oil spill emanating from the *Argo Merchant* increased in size. The Service had developed and promoted LORAN usage for many years and itself operated the LORAN coastal transmitting stations. When the January, 1977 Navigation Safety Regulations were rushed into effect, the logical next step was, therefore, a Coast Guard proposed rule, issued the same day, to require LORAN-C equipment on all vessels of more than 1600 gross tons operating in domestic waters.[103] The original proposal would merely have added a LORAN-C receiver to the new mandatory equipment list, but that Notice of Proposed Rule Making was quickly supplemented by a notice stating that minimum standards for acceptable LORAN-C receivers would be published in the near future.[104]

The proposed LORAN rule generated a flurry of comment pro and con, much of it along the same lines as that submitted in regard to the wider-ranging presidential initiative proposal. Other reactions focused on the choice of LORAN-C over other competing electronic

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system by which a navigator can determine his position by use of a special receiver which measures time differentials between the receipt of radio signals from separate transmitting stations and thereby determines hyperbolic lines of position. The navigator can locate the intersection of two or more such lines on a specially overprinted chart or the equipment can be linked to a computer to provide a direct position readout. *See* Chapter XIII, American Practical Navigator, U.S. Navy Hydrographic Office Publication No. 9 (1962).

[101] The "study" does not indicate to what extent some of the vessels boarded may have had both equipments installed. *Summary Report of Coast Guard Boarding Program* (March 15-May 15, 1975).

[102] Greenberg letter #2, *supra* note 41.

[103] 42 Fed. Reg. 5,966 (1977).

[104] 42 Fed. Reg. 9,685 (1977).

position fixing systems, and arguing their relative merits. In response to the technical comments, the Coast Guard on November 17, 1977 withdrew its first LORAN-C proposal and substituted a much more detailed proposed rule, requiring all ships in American waters over 1600 gross tons to be equipped with LORAN-C, a continual update satellite-based hybrid positioning system,[105] or another system which meets the established standards[106] of availability, coverage and accuracy as determined by the Commandant of the United States Coast Guard. To date, no regulations concerning the LORAN equipment have gone into effect. While participating in the development of the matters addressed by the TSPP 78 the Coast Guard has not been distracted from the specific problem which caused the Argo Merchant to go aground. It has demonstrated its determination to put into effect some appropriate requirement for electronic position-fixing devices on board oil-laden vessels in United States coastal waters.

IV. THE FUTURE

As a direct result of the public outcry in the United States following the extraordinary combination of tankship accidents in late 1976, it now appears that improvements in crew competency,[107] ves-

[105] A system that combines input from navigation satellites, when they pass over a vessel, with doppler, inertial or OMEGA intermediate position determination. 42 Fed. Reg. 59,012 (1977).

[106] U.S. Dep't of Transp. National Plan for Navigation NTIS AD 74 1944 (April 1972).

[107] Another IMCO Conference, meeting in London in July 1978, agreed on the text of the world's first International Convention establishing basic requirements on training, certification and watchkeeping for masters, officers and crews of seagoing merchant ships.

The Conference of 72 nations was convened by IMCO in association with the International Labor Organization. Originally scheduled for the end of 1978, the Conference was advanced to July at the request of the United States as part of the presidential initiative on tank vessel safety and pollution prevention.

The new treaty, the International Convention on Standards of Training, Certification and Watchkeeping of Seafarers, 1978, is designed "to promote safety of life and property at sea and the protection of the marine environment." Based on the official assumption that over 80 percent of maritime accidents are caused by human error, the improved training standards, when implemented, should better equip personnel on board ships to avoid maritime casualties.

The principal provision of the Convention pertains to the issuance of certificates to seafarers and to the control of such certificates on all ships when in the ports of a party to the Convention. The control procedures will enable an administration to ascertain that seafarers on ship arriving in their ports comply with the convention. In cases of very serious deficiencies a ship may be detained.

The Convention contains the regulations which establish standards for certificating deck and engine officers, and for issuing authorized documents to unlicensed ratings in the deck and engineer departments. Requirements for sea service, training, professional examination and physical fitness were incorporated to ensure that the level of qualification for seafarers

sel design, on-board equipment, and overall operation will be made. The prospects for improved domestically enforceable international standards appear bright. Both the executive and the legislative branches of the government are determined to implement such standards for both domestic and foreign vessels utilizing United States ports, at least to the level of the new emerging international standards and possibly, by congressional action, to an even higher level. However, all the environmental problems attendant upon the carriage of oil and bulk over the oceans are far from solved. None of the measures discussed in the wake of the *Argo Merchant* disaster would have prevented the 64,000,000 gallon *Amoco Cadiz* spill which occurred along the French coast in March, 1978.[108] Further proposals must be made to reduce the likelihood of future oil tankship disasters.

Congress seems to have learned that, at least in ocean environmental matters, it cannot merely give an executive agency authority to act, even an environmentally conscious agency such as the United States Coast Guard, and then turn its attention elsewhere. The environmental problems surrounding our dependence upon petroleum cannot be met on a piecemeal basis—this is the true lesson of the *Argo Merchant* disaster. The progress that has been made since that disaster resulted from the coordinated efforts of many national and international agencies. Hopefully this recent level of coordination, interest and effort will continue in the future. The oil tanker, once a cargo carrier of only commercial concern, has increasingly become a focus of intense political and environmental attention. Such a situation undoubtedly will remain as long as the world's oil supply lasts.

And what of the ocean waters covering Fishing Rip? What has occurred on the grave of the *Argo Merchant* during the months of

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is uniformly attained in all countries. It also sets up special requirements for the training and qualification of masters, officers and ratings for oil, chemical and liquified gas tankers. These were developed during the conference largely as a result of a Resolution adopted by TSPP 78.

The Convention will come into effect when 25 nations, with combined merchant fleets constituting 50 percent of the gross tonnage of the world's merchant shipping, have ratified it. The effect of its benefits may be realized sooner since some of the established maritime nations, which have already evolved standards comparable to the Convention requirements, intend to work toward implementing the provisions before its coming into force. Dep't of Transp. News Release, CG-55-78 (July 31, 1978).

[108] On March 16, 1978 the supertanker *Amoco Cadiz* sustained a propulsion machinery failure off the French coast which left the vessel drifting. The 1100 foot long 228,496 deadweight ton Liberian tanker ultimately drifted onto the rocks near the Brittany fishing resort of Portsall and broke in two. U.S. Naval Proceedings, Professional Notes 109 (June, 1978).

debate, proposals, and adoption of resolutions and regulation? "[D]espite the spill, nothing [now] seems to have happened . . . but a great deal has been learned about oil disbursing, ocean currents, tidal action and most importantly about government confusion and disorganizaton in the face of such an event."[109]

[109] The Boston Globe, December 12, 1977, at 2, col. 2-3.